SECTION 4.0

Alternatives Comparison

SECTION 4.0

Alternatives Comparison

4.1 CEQA Requirements for Alternatives

CEQA requires that a reasonable range of feasible alternatives be evaluated in an EIR. The CEQA Guidelines, Section 15126.6, Consideration and Discussion of Alternatives to the Proposed Project, specify the following:

> "(a) Alternatives to the Proposed Project. An EIR shall describe a range of reasonable alternatives to the project, or to the location of the project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives. An EIR need not consider every conceivable alternative to a project. Rather it must consider a reasonable range of potentially feasible alternatives that will foster informed decisionmaking and public participation. An EIR is not required to consider alternatives which are infeasible. The lead agency is responsible for selecting a range of project alternatives for examination and must publicly disclose its reasoning for selecting those alternatives. There is no ironclad rule governing the nature or scope of the alternatives to be discussed other than the rule of reason. (*Citizens of Goleta Valley v. Board of Supervisors* (1990) 52 Cal.3d 553 and *Laurel Heights Improvement Association v. Regents of the University of California* (1988) 47 Cal.3d 376)."

4.2 NEPA Requirements for Alternatives

NEPA also requires that alternatives to the Proposed Project be evaluated in an EIS. The Council on Environmental Quality Regulations for Implementing NEPA, Section 1502.14, Alternatives Including the Proposed Project, specifies the following:

> "This section is the heart of the environmental impact statement. Based on the information and analysis presented in the sections on the Affected Environment (Sec. 1502.15) and the Environmental Consequences (Sec. 1502.16), it should present the environmental impacts of the proposal and the alternatives in comparative form, thus sharply defining the issues and providing a clear basis for choice among options by the decision maker and the public. In this section agencies shall:
>
> (a) Rigorously explore and objectively evaluate all reasonable alternatives, and for alternatives that were eliminated from detailed study, briefly discuss the reasons for their having been eliminated.
>
> (b) Devote substantial treatment to each alternative considered in detail including the Proposed Project so that reviewers may evaluate their comparative merits.
>
> (c) Include reasonable alternatives not within the jurisdiction of the lead agency.

(d) Include the alternative of no action.

(e) Identify the agency's preferred alternative or alternatives, if one or more exists, in the draft statement and identify such alternative in the final statement unless another law prohibits the expression of such a preference.

(f) Include appropriate mitigation measures not already included in the Proposed Project or Alternatives.

4.3 Alternatives Evaluated in this EIR/EIS

The Alternatives evaluated in this EIR/EIS were selected based on an analysis that considered 14 alternatives against several criteria. The surviving Alternatives included those that were shown to be able to reduce impacts compared to the Proposed Project, that were shown to be feasible, and that met most of the project objectives. The entire Alternatives Analysis is included as Appendix D to this EIR/EIS. A summary of the analysis showing each alternative considered, how it performed against the evaluation criteria, and why it was included for or excluded from further analysis in this EIR/EIS is shown in Table 4-4 at the end of this section. Alternatives considered but eliminated are further discussed below in Section 4.7.

The Alternatives evaluated in this EIR/EIS include the Proposed Project and Alternatives 1 through 4, each of which is summarized below. Table 4-1 shows the key elements of each Alternative, and Table 4-2 shows selected environmental effects. The effects on the Salton Sea are included in this table as they are the major environmental effects of the Proposed Project and Alternatives. These effects help to differentiate the Alternatives from one another according to each Alternative's ability to reduce impacts when compared to the Proposed Project. A more detailed comparison of environmental resources that would experience significant unavoidable impacts is shown in Table 4-3.

4.3.1 Proposed Project

The Proposed Project is described in detail in Section 2 of this EIR/EIS. This section below summarizes the major components of the Proposed Project, including the following:

- Voluntary commitment by IID to limit its annual diversions of Priority 3 Colorado River water to 3.1 MAFY.
- Change in the point of diversion for 300 KAFY on the LCR from Imperial Dam to Parker Dam.
- Conservation by IID of water through a combination of on-farm and water delivery system improvements and fallowing in the IID water service area.
- Water transfer by IID to SDCWA under the terms of the IID/SDCWA Transfer Agreement.
- Water transfer by IID to SDCWA, CVWD, and/or MWD under the terms of the QSA.
- Physical conveyance of conserved water and associated approvals needed from Reclamation.
- Implementation of the HCP.

TABLE 4-1
Elements of the Proposed Project and Alternatives

Alternative	Limit of IID's Priority 3 Diversion of Colorado River Water	Conservation Measure[1] (KAFY)				Transfer			Compliance with Inadvertent Overrun Policy?	Change Point of Diversion?	Meet Terms of IID/SDCWA Transfer Agreement?	Meet Terms of QSA?	Implement HCP?
		On-farm Irrigation System	Water Delivery System	Fallowing	Total	SDCWA	CVWD	MWD					
Proposed Project	3.1 MAFY	Any combination of conservation measures to conserve up to 300			300	200	Total of 100		Average 59-KAFY-Payback	Yes	Yes[2]	Yes	Yes
Alternative 1: No Project	3.43 MAFY	0	0	0	0	0	0	0	No IOP implemented	No	No	No	No
Alternative 2: 130 KAFY	3.1 MAFY	130			130	130	0	0	Average 59-KAFY-Payback	Yes	Yes	No	Yes
Alternative 3: 230 KAFY	3.1 MAFY	Any combination of conservation measures to conserve up to 230			230	130	Total of 100		Average 59-KAFY-Payback	Yes	Yes	Yes	Yes
Alternative 4: 300 KAFY	3.1 MAFY	0	0	300	300	200	Total of 100		Average 59-KAFY-Payback	Yes	Yes[2]	Yes	Yes

Notes:
[1]The maximum amount of conservation that can be achieved by on-farm irrigation system improvement measures is 230 KAFY, and the maximum amount of conservation that can be achieved by water delivery system improvements is 100 KAFY (see IIDSS in Appendix E).

[2]Assumes that the IID/SDCWA Transfer Agreement would be amended to allow fallowing to conserve water for transfer.

TABLE 4-2
Summary of Proposed Project and Project Alternatives

Scenario	Salton Sea Effects						Fallowing (Acres)			
	Without Salton Sea Habitat Conservation Strategy			With Salton Sea Habitat Conservation Strategy						
	Year 60 ppt is reached	Salton Sea Elevation in 2077 (ft msl)[1]	Exposed Shoreline in 2077[2] (Acres)	Year 60 ppt is reached	Salton Sea Elevation in 2077 (ft msl)[1]	Exposed Shoreline in 2077[2] (Acres)	For Transfer	For SS HCP	For IOP	TOTAL
Proposed Project										
300K - (System and On-farm)	2012	-250	49,500	N.F.	N.F.	N.F.	N.F.	N.F.	9,800	9,800
300K - (Fallowing)	2017	-241	15,800	2030	-240	15,100	50,000	30,500	9,800	90,300
Alternative 1										
No Project	2023	-235	N.A.	2023	-235	N.A.	N.A.	N.A.	N.A.	N.A.
Alternative 2										
130K - (On-farm only)	2013	-242	21,700	2030	-242	21,200	None	40,600	9,800	50,400
Alternative 3										
230K - (System/On-Farm Only)	2012	-247	38,500	2030	-246	37,700	None	67,300	9,800	77,100
230K - (Fallowing)	2018	-239	11,600	2030	-239	11,100	38,300	25100	9,800	73,200
Alternative 4										
300K - (Fallowing)	2017	-241	15,800	2030	-240	15,100	50,000	30,500	9,800	90,300

Notes:
[1] Salton Sea elevations derived from the Salton Sea Accounting Model (SSAM) developed by the Bureau of Reclamation. Elevations rounded to the nearest whole number.
[2] Additional increment as compared to the No Project Baseline.

N.A. = Not Applicable
N.F. = Not Feasible


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TABLE 4-3
Significant Unavoidable Impacts (SUIs) of the Proposed Project and Alternatives

Resource Area	Proposed Project 300 KAFY All Conservation Measures	Alternative 1 No Project (Baseline)	Alternative 2 130 KAFY On-Farm Irrigation System Improvements Only	Alternative 3 230 KAFY All Conservation Measures	Alternative 4 300 KAFY Fallowing Only	Notes
3.1 Hydrology and Water Quality	SUI due to increased selenium concentrations to **9.25** µg**/l** in the IID surface drain discharge to the Alamo River.	Baseline selenium concentration in the IID surface drain discharge to the Alamo River **6.32**µg**/l.**	SUI due to increased selenium concentrations to **6.91** µg**/l** in the IID surface drain discharge to the Alamo River.	SUI due to increased selenium concentrations to **8.88** µg**/l** in the IID surface drain discharge to the Alamo River. .	Less than significant impact due to decreased selenium concentrations to **6.10** µg**/l** in the IID surface drain discharge to the Alamo River.	Selenium EPA ambient water quality criterion is **5** µg**/l.** Water quality projections based on IIDSS and project for the year 2077.
	SUI due to increased selenium concentrations to **7.86** µg**/l** in Alamo River at the outlet to the Sea.	Baseline selenium concentrations in Alamo River at the outlet to the Sea of **6.25** µg**/l**	Less than significant impact due to no change in selenium concentrations - **6.25** µg**/l** in Alamo River at the outlet to the Sea.	SUI due to increased selenium concentrations to **7.39** µg**/l** in Alamo River at the outlet to the Sea.	Beneficial impact due to decrease in selenium concentrations to **6.13** µg**/l** in Alamo River at the outlet to the Sea.	
	SUI due to increased selenium concentrations to **8.30** µg**/l** in the IID surface drain discharge to the New River.	Baseline selenium concentration in the IID surface drain discharge to the New River **6.51**µg**/l.**	SUI due to increased selenium concentration **7.15** µg**/l** in the IID surface drain discharge to the New River.	SUI due to increased selenium concentration **7.90** µg**/l** in the IID Surface drain discharge to the New River.	Less than significant impact due to slight decrease in selenium concentration to **6.50** µg**/l** in the IID surface drain discharge to the New River.	

TABLE 4-3
Significant Unavoidable Impacts (SUIs) of the Proposed Project and Alternatives

Resource Area	Proposed Project 300 KAFY All Conservation Measures	Alternative 1 No Project (Baseline)	Alternative 2 130 KAFY On-Farm Irrigation System Improvements Only	Alternative 3 230 KAFY All Conservation Measures	Alternative 4 300 KAFY Fallowing Only	Notes
	SUI due to increased selenium concentrations to **6.69** µg/l in the IID surface drain discharge to the Salton Sea.	Baseline selenium concentration in the IID surface drain discharge to the Salton Sea of **4.80** µg/l.	SUI due to increased selenium concentrations to **5.09** µg/l in the IID surface drain discharge to the Salton Sea.	SUI due to increased selenium concentrations to **6.40** µg/l in the IID surface drain discharge to the Salton Sea.	Beneficial impact due to decrease in selenium concentrations to **4.61** µg/l in the IID surface drain discharge to the Salton Sea.	
HCP Salton Sea Habitat Conservation Strategy	Under the Salton Sea Habitat Conservation Strategy water would be provided to the Salton Sea to maintain the salinity below 60 ppt until 2030. It has not yet been determined how this water would be generated and transported to the Salton Sea. Depending on the source of mitigation water and the method of conveyance, implementation of the Salton Sea Habitat Conservation Strategy could reduce selenium concentrations in the New and Alamo Rivers. However, selenium concentrations in the drain discharge would not necessarily be improved by this approach, as the location of lands generating water for mitigation may not coincide with impacted drains for conservation for transfer.					
3.5 Agricultural Resources	SUI to Prime farmland and Farmland of Statewide Importance due to the potential non-rotational fallowing of up to **50,000 acres** for conservation for transfer.	None	No impacts to agricultural resources.	SUI to Prime farmland and Farmland of Statewide Importance due to the potential non-rotational fallowing of up to **38,300 acres** for conservation for transfer.	SUI to Prime farmland and Farmland of Statewide Importance due to the potential non-rotational fallowing of up to **50,000 acres** for conservation for transfer.	Impacts to Prime farmland and Farmland of Statewide Importance result if lands do not produce irrigated crops for more than four years.
HCP (Salton Sea Habitat Conservation Strategy)	With the Salton Sea Habitat Conservation Strategy, SUI to agricultural resources would not be minimized or avoided for the Proposed Project and Alternatives 2, 3, and 4. If fallowing is used to conserve water for mitigation under this approach, rotational fallowing would be used to avoid additional impacts to agricultural lands. For Alternative 1, Baseline conditions would continue.					

TABLE 4-3
Significant Unavoidable Impacts (SUIs) of the Proposed Project and Alternatives

Resource Area	Proposed Project 300 KAFY All Conservation Measures	Alternative 1 No Project (Baseline)	Alternative 2 130 KAFY On-Farm Irrigation System Improvements Only	Alternative 3 230 KAFY All Conservation Measures	Alternative 4 300 KAFY Fallowing Only	Notes
3.6 Recreation	SUI to sportfishing due to projected life cycle impacts on fish beginning in **Year 2010.**	Life cycle of fish impacted beginning in **Year 2015.**	SUI to sportfishing due to projected life cycle impacts on fish beginning in **Year 2010.**	SUI to sportfishing due to projected life-cycle impacts on fish beginning in **Year 2010.**	SUI to sportfishing due to projected life cycle impacts on fish beginning in **Year 2012.**	
HCP (Salton Sea Habitat Conservation Strategy)	The Salton Sea Habitat Conservation Strategy would maintain the salinity of the Salton Sea at or below the Baseline levels until 2030 and would **avoid SUI recreation impacts** to sportfishing resulting from the Proposed Project. The life cycle of fish would be impacted in Year 2030 with the Salton Sea Habitat Conservation Strategy compared to 2023 predicted for the Baseline/No Project.					
3.7 Air Quality	SUI air quality impact due to the potential for windblown dust from exposure of **50,000 acres** of shoreline (compared to the Baseline).	Exposure of **16,000 acres** of shoreline by 2077.	SUI air quality impact due to the potential for windblown dust from exposure of **22,000 acres** of shoreline (compared to the Baseline)**.**	SUI air quality impact due to the potential for windblown dust from exposure of **39,000 acres** of shoreline (compared to the Baseline)**.**	SUI air quality impact due to the potential for windblown dust from exposure of **16,000 acres** of shoreline (compared to the Baseline)**.**	
HCP (Salton Sea Habitat Conservation Strategy):	The Salton Sea Habitat Conservation Strategy would maintain the elevation of the Salton Sea at or above the Baseline levels thereby **delaying the onset of SUI impacts to air quality until the year 2035**. With the Salton Sea Habitat Conservation Strategy, compared to the Baseline, the Proposed Project would expose 15,100 acres, Alternative 2 would expose 21,200, Alternative 3 would expose up to 37,700 and Alternative 4 would expose 15,100 acres after 2035.					


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4.3.2 Alternative 1: No Project

The No Project Alternative is the scenario under which the Proposed Project is not permitted, constructed, or implemented. The No Project Alternative is not the environmental status quo. Rather, it is defined as "existing environmental conditions" (see Section 3), as well as what would reasonably be expected to occur in the foreseeable future if the Proposed Project were not approved, based on current plans and consistent with available infrastructure (CEQA Guidelines, §15126.6[e][2]). Under the No Project Alternative, the IID/SDCWA Transfer Agreement would not be implemented, the QSA would not be finalized and implemented, and the HCP would not be finalized and implemented. Additional, assumed, and future conditions through 2077 under the No Project Alternative are described in detail in Section 2.3.2.1. Additional information on the No Project Alternative in relation to the HCP can be found in Section 6.1 of the HCP (see Appendix C).

For this EIR/EIS, the No Project Alternative plays a key role in the evaluation and comparison of the Proposed Project and Alternatives. Comparing the impacts of the Proposed Project and Alternatives to the No Project condition of the Sea (projected condition in year 2077) allows us to predict what the added increment of impact to the Sea would be for each Alternative.

4.3.3 Alternative 2: Water Conservation and Transfer of Up To 130 KAFY to SDCWA (On-farm Irrigation System Improvements As Exclusive Conservation Measure)

Alternative 2 is a scaled-back version of the Proposed Project/HCP, and includes only the minimum amount of water that could be transferred under the terms of the IID/SDCWA Transfer Agreement, which is 130 KAFY. The 130 KAFY would be conserved exclusively by on-farm irrigation system improvements in the IID water service area. It is important to note that Alternative 2 would not comply with the QSA (if the QSA is finalized) because no water would be made available for transfer to either CVWD or MWD. Under Alternative 2, the water conveyance methods of the Proposed Project would also apply (i.e., water transferred from IID to SDCWA would be diverted at Parker Dam and conveyed via the CRA).

Alternative 2 was developed to provide an alternative to the Proposed Project that could reduce the impacts of the Proposed Project by reducing the amount of water conserved. As described in Section 3, implementation of the water conservation and transfer components of the Proposed Project would result in reduced inflows to the Salton Sea. This reduction in flow to the Sea is directly related to the amount of water conserved under the Proposed Project as well as to the particular conservation measures that would be implemented under the Proposed Project. Under Alternative 2, less water would be conserved and transferred than under the Proposed Project.

Alternative 2 was also anticipated to have an incrementally lower level of take and less impact relative to the amount of water conserved under the Proposed Project. However, reduced conservation and transfer amounts would not substantially reduce the level of take or mitigation requirements for biological resources. Potential impacts along and within IID's canal and drainage system, and in and around the Salton Sea would be substantially similar as under the Proposed Project. Habitat conditions along the AAC would remain relatively unchanged. IID's ongoing O&M activities would be the same as those outlined in the proposed HCP. As a

result, all of the conservation strategies would be substantially the same as under the Proposed HCP. Additional information about this Alternative is included in the HCP (see Appendix C).

4.3.4 Alternative 3: Water Conservation and Transfer of Up To 230 KAFY to SDCWA, CVWD, and/or MWD Service Areas (All Conservation Measures)

Alternative 3 provides a middle level of conservation between the Proposed Project and Alternative 2 by providing for water conservation and transfer of up to 230 KAFY using any type of conservation measure, including on-farm irrigation system improvements, water delivery system improvements, and/or fallowing. The first 130 KAFY would be transferred to SDCWA, and the remaining 100 KAFY would be conserved and transferred either to SDCWA or to CVWD and/or MWD. Water transferred from IID to SDCWA or MWD would be diverted at Parker Dam and conveyed via the CRA. Water transferred to CVWD would remain in the LCR; diversion would occur at Imperial Dam and be conveyed to the CVWD service area via the Coachella Canal.

As described under Alternative 2, alternatives were developed to minimize Project-related impacts. Under Alternative 3, the reduced amount of conservation is intended to minimize the impact of reduced flows to the Sea, as well as to minimize related impacts that could occur in relation to reduced flows to the Sea when compared to the Proposed Project. Under Alternative 3, less water would be conserved and transferred than under the Proposed Project.

In addition, this Alternative was also anticipated to have an incrementally lower level of take and less impact than the Proposed Project. However, as described under Alternative 2, reduced conservation and transfer amounts would not substantially reduce the level of take or mitigation requirements for biological resources. Potential impacts along and within IID's canal and drainage system, and in and around the Salton Sea would be substantially similar as under the Proposed Project. Habitat conditions along the AAC would remain relatively unchanged. IID's ongoing O&M activities would be the same as those outlined in the proposed HCP. As a result, all of the conservation strategies would be substantially the same as under the Proposed HCP. Additional information about this Alternative is included in the HCP (see Appendix C).

4.3.5 Alternative 4: Water Conservation and Transfer of Up To 300 KAFY to SDCWA, CVWD, and/or MWD Service Areas (Fallowing As Exclusive Conservation Measure)

Alternative 4 assumes that fallowing, rather than other conservation methods, would be the exclusive measure used to conserve water. Although fallowing is part of the water conservation program anticipated by the Proposed Project, fallowing as the exclusive conservation measure has been isolated under Alternative 4 to identify the effects of fallowing separately.

Fallowing of farmland could be used to meet water conservation objectives because it could reduce the amount of irrigation water that IID would be required to deliver to its water service area. Fallowing is defined in Section 2.2.3.4 as the non-use of farmland for crop production to conserve irrigation water, on a short-term or long-term basis. As described in that section, there are a number of ways to implement fallowing to achieve water conservation.

As discussed in Section 2.2.3.4, implementation of Alternative 4 would require that restrictions on fallowing in the IID/SDCWA Transfer Agreement be waived or modified to allow fallowing

as an acceptable method of on-farm water conservation under landowner contracts. The IID Board would also have to rescind or modify its adopted policies that do not currently support fallowing by landowners for purposes of transferring water.

Fallowing could be undertaken by landowners on land they own, lease, or purchase; or by IID on land it owns, leases, or purchases. The purpose of the Alternative 4 analyses is to assess the potential environmental impacts of fallowing rather than to predict the exact method of fallowing or by whom it would be done.

As described under Alternatives 2 and 3, alternatives were developed to reduce Project-related impacts. Under Alternative 4, the use of fallowing as a conservation measure would minimize the impact of reduced flows to the Sea under the Proposed Project. However, as described under Alternatives 2 and 3, potential impacts along and within IID's canal and drainage system, and in and around the Salton Sea would be substantially similar as under the Proposed Project. As a result, all of the conservation strategies would be substantially the same as under the Proposed HCP. Additional information about this Alternative is included in the HCP (see Appendix C).

4.4 Habitat Conservation Plan

The HCP for the Proposed Project and Alternatives is an inherent part of the project and is described in Section 2.2.6.1, Habitat Conservation Plan Overview and in detail in Appendix C. There is one HCP for the project; however, for environmental analysis purposes, it is useful to divide the HCP into the IID Water Service Area Portion and the Salton Sea Portion.

IID has prepared the HCP as part of the Proposed Project to support its Incidental Take Permit applications in conformance with § 10(a)(1)(B) of ESA and § 2081(b) of CESA. An Incidental Take Permit allows a project applicant to conduct otherwise lawful activities that incidentally harm (or "take") federal and/or state listed species, either through habitat modification or direct injury. The federal- and/or state- listed species that are included in IID's HCP are called "covered species." These covered species are discussed in Section 2.2.6.4 and further defined in Appendix C.

4.4.1 HCP (IID Water Service Area Portion)

The IID Water Service Area Portion of the HCP mitigates for potential take associated with implementation of the IID/SDCWA Transfer Agreement, the QSA, and/or continuation of its routine O&M activities within the IID water service area. O&M activities are included to ensure that IID obtains all ESA and CESA approvals required to continue operation of its irrigation and drainage system for the duration of the Proposed Project and Alternatives. Issuance of an Incidental Take Permit by USFWS constitutes a federal action that requires evaluation under NEPA. The IID Water Service Area and AAC Portion of the HCP includes conservation strategies for tamarisk scrub, drain, desert and agricultural habitats, which are described in detailed in Section 2.2.6.7, Implementation of the HCP Conservation Strategies and in the HCP (Appendix C). The HCP actions associated with the IID Water Service Area Portion are part of the Proposed Project and Alternatives 2, 3, and 4.

4.4.2 HCP (Salton Sea Portion) Salton Sea Habitat Conservation Strategy

To avoid or mitigate the temporal impacts of reducing flows to the Sea, mitigation water to offset Project-related inflow reductions would be provided to the Sea. The amount of mitigation water provided to the Sea would be sufficient to maintain the salinity of the Sea below 60 ppt until 2030. If all water conservation was achieved through fallowing, approximately 50,000 acres of fallowed land would be required to generate the water necessary for transfer, and an additional 30,500 acres of fallowing would be required to generate the water necessary to offset changes in inflow to the Sea. An additional 9,800 acres of fallowing would be required to provide water necessary for compliance with the IOP. This mitigation would maintain salinity below 60 ppt until 2030 and avoid project-related impacts to fish-eating birds covered by the HCP.

The Salton Sea Habitat Conservation Strategy has been evaluated in this final EIR/EIS with the assumption that mitigation water would be generated by fallowing within the IID water service area. Other sources of water could be used, but they have not been evaluated in this EIR/EIS. Additional details of the Salton Sea Habitat Conservation Strategy can be found in Section 2.2.6.7.

4.4.3 Habitat Conservation Plan Alternatives

Section 10 of the ESA requires an applicant for an Incidental Take Permit to consider and describe "alternative actions to such takings" with the HCP. Because the HCP is an inherent part of the Proposed Project and Alternatives, each of the Project Alternatives described above is also an alternative to the HCP. However, it was determined that lesser amounts of conservation and transfer would not substantially reduce the level of take and therefore would not reduce the HCP requirements.

4.5 Alternatives Comparison

Table 4-3 compares the significant unavoidable impacts of the Proposed Project and Alternatives. Significant unavoidable impacts were identified for hydrology and water quality, agricultural resources, recreation, and air quality. The remaining environmental resources are not shown on the table because there were either no impacts, or the impacts could be mitigated to less than significant with mitigation measures. Biological resources are not included on this table because biological impacts are addressed by the HCP, which is an inherent part of the project and which reduces biological impacts to less than significant, as described in Section 3.2, Biological Resources. Table 4-3 shows the effect that implementation of Salton Sea Habitat Conservation Strategy component of the HCP would have on significant unavoidable impacts.

A comprehensive listing and summary of the impacts is included as the first table in each of the resource sections. A list of all potentially significant impacts, including those that can be mitigated to less than significant, is included in the Executive Summary.

4.6 Environmentally Superior Alternative

CEQA Guidelines 15126.6(e)2, Consideration and Discussion of Alternatives to the Proposed Project, state, "If the environmentally superior alternative is the No Project Alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives." For

this Project, Alternative 1, the No Project Alternative is environmentally superior to the others; therefore, the next environmentally superior alternative is discussed below.

For the Proposed Project and each of the Project Alternatives, the Salton Sea Habitat Conservation Strategy would effectively avoid the significant impacts to recreational and biological resources of the Salton Sea and would delay the potentially significant unavoidable air quality impact of dust emissions from the exposed Salton Sea shoreline until about 2035 by providing mitigation water to the Sea at a level equal to or greater than the Baseline. After 2035, the magnitude of air quality impacts is driven by the extent to which the Sea would decline by the end of the Project term (2077), as a result of the Project. Elevation decline is affected by the method of conservation and by the amount of conservation. Alternatives that utilize fallowing have the least impact on elevation. Alternative 2 (130 KAFY – On-farm irrigation improvements only), is the only Alternative which does not include the use of fallowing to generate the conserved water for transfer. The 2077 elevation for Alternative 2 with implementation of the Salton Sea Habitat Conservation Strategy is anticipated to be about –242 feet msl. The Proposed Project, if implemented using fallowing exclusively to conserve the transferred water, would have a projected Sea elevation of –240 feet msl in 2077 as would Alternative 4. Alternative 3 (230 KAFY – All Conservation Measures), if implemented using fallowing to conserve the transferred water, would have a projected Salton Sea elevation in 2077 of about –239 feet msl.

Implementation of the Salton Sea Habitat Conservation Strategy would not avoid significant impacts on water quality (selenium in the drains and the New and Alamo Rivers) or to agricultural resources (conversion of prime farmland and farmland of statewide importance or conversion of other agricultural lands to non-agricultural use). None of the Alternatives would avoid water quality impacts; however, Alternative 2 would reduce them compared to the other Alternatives. Impacts on agricultural resources would result from the use of fallowing which is non-rotational or which results in the conversion of agricultural land to a non-agricultural use. Therefore, alternatives which implement such fallowing to conserve water for transfer or for mitigation water to implement the Salton Sea Habitat Conservation Strategy have the greatest impact on agricultural resources.

The environmentally superior alternative would be one that minimizes impacts to the elevation of the Sea while also minimizing the amount of water conserved (to reduce impacts to drains) and the amount of conservation by non-rotational fallowing (to reduce impacts to agricultural resources). Alternative 2, because it can only be implemented with on-farm irrigation system improvements, would result in greater impacts to the elevation of the Salton Sea by 2077 than the Proposed Project, Alternative 3, and Alternative 4.

Alternative 3 (230 KAFY - All Conservation Measures), if implemented using fallowing, would result in the least amount of elevation reduction to the Salton Sea and would reduce water quality impacts to the IID drains and the Alamo River and impacts to agricultural resources as compared to the Proposed Project and Alternative 4 (300 KAFY). Therefore, Alternative 3 is considered the environmentally superior alternative. Although socioeconomic impacts are not a consideration in the determination of the environmentally superior alternative under CEQA, it should be noted that alternatives that rely on fallowing for conservation would result in greater socioeconomic effects than alternatives that do not.

4.7 Alternatives Considered, but Eliminated

4.7.1 Water Conservation and Transfer Alternatives Considered

To select alternatives for evaluation in this EIR/EIS, a comprehensive Alternatives Analysis was conducted, which is included as Appendix D of this EIR/EIS. To prepare the Alternatives Analysis, a comprehensive list of all potential alternatives was first compiled. Potential alternatives for this project were identified from comments received during the scoping process, the environmental review process for the QSA PEIR, and discussions with IID and SDCWA engineers and other water resource professionals familiar with the IID system and the region.

Fourteen alternatives (including subalternatives) were initially identified for evaluation. Screening criteria were then applied to those 14 alternatives. The screening criteria were developed based on CEQA guidelines for selecting alternatives and are described in detail in Appendix D, Alternatives Screening Analysis. The performance of each of these alternatives, evaluated against the screening criteria, is documented in Appendix D, Alternatives Screening Analysis. Of the 14 alternatives, five, including the Proposed Project and the No Project Alternative, are recommended for further evaluation in this EIR/EIS, based on the screening analysis. The other alternatives, which were considered but eliminated, are listed below.

Additionally, Table 4-4 shows how each alternative performed against each of the screening criteria and also indicates which alternatives were carried forward for analysis in this EIR/EIS, and which were eliminated from further consideration. The table also summarizes the rationale for inclusion or exclusion of each of the considered alternatives.

4.7.2 HCP Alternatives Considered

Section 10 of the ESA requires an applicant for an Incidental Take Permit to consider and describe "alternative actions to such takings" within the HCP. IID considered three alternatives in the process of developing the HCP that were determined to be inconsistent with its objectives and/or less likely to be successfully implemented. The alternatives to the HCP that were considered are listed below.

4.7.3 No Take Alternative

An alternative to the HCP that avoided take of all proposed covered species was considered but determined not to be practicable. The Proposed HCP consists of several conservation strategies as follows:

- Salton Sea Conservation Strategy
- Tamarisk Scrub Habitat Conservation Strategy
- Drain Habitat Conservation Strategy
- Desert Habitat Conservation Strategy
- Specific-species Conservation Strategies
- Agricultural Field Conservation Strategy

The Salton Sea Habitat Conservation Strategy of the Proposed HCP contains a no take approach. This strategy would avoid accelerating the decline in fish abundance from increases in salinity by providing water to the Sea to offset Project-related salinity increases until 2030, and in that way would avoid take of proposed covered species associated with the Salton Sea. No other

means for avoiding take of species associated with the Salton Sea was identified. The Desert Habitat Conservation Strategy incorporates no take practices to the extent possible. In developing this strategy, many of the USFWS and CDFG's standard take avoidance and minimization measures for desert species (e.g., desert tortoise) were incorporated into the conservation strategy. Because IID must conduct O&M activities on the AAC and other canals adjacent to desert habitat, it would not be practicable to further avoid take.

IID is obligated to provide drainage to farm fields in the Imperial Valley. As part of this obligation, IID must conduct O&M activities (e.g., vegetation removal) on the drainage system to maintain gravity flow of drainage water. As a result, avoidance of take of proposed covered species using the drains (including burrowing owls and desert pupfish) would not be practicable. Similarly, IID must conduct O&M activities on its conveyance system such that avoidance of take of species using the conveyance system (e.g., burrowing owls) would not be practicable. Because measures to avoid take are either already incorporated into the Proposed HCP or no take measures would not be practicable to implement, a No Take Alternative was not carried forward.

4.7.4 Modification of Water Conservation and Transfer Amounts

Two different levels of water conservation (conservation and transfer of 130 KAFY and 230 KAFY) were examined as alternative actions to the level of take anticipated under the proposed water conservation programs and the HCP. The underlying premise for considering these alternatives was that the potential for impact and the level of take are related to the amount of water conserved and transferred out of the system. Each of these alternatives was anticipated to have incrementally less impact relative to the Proposed Project. However, IID determined that reduced conservation and transfer amounts would not substantially reduce the level of take or mitigation requirements. For these reasons, a reduced level of conservation HCP alternative was not adopted. However, reduced levels of conservation are Project Alternatives and HCP Alternatives as described in Section 4.3 above.

TABLE 4-4
Alternative Analysis Summary

	Screening Criteria								
	Project Objectives		Reduce Impacts	Feasibility			Project Specific		
	C1: Provide SDCWA with reliable source	**C2: Support cons. and protect IID's water rights**	**C3 : Minimize Env. Impacts compared to the Proposed Project**	**C4: Technically Feasible and Reliable**	**C5: Institutionally and Politically feasible**	**C6: Implementable within reasonable schedule**	**C7: Meets QSA transfer objectives**	**Evaluate in EIR/EIS?**	**Rationale for Evaluation in EIR/EIS**
Proposed Project	Pass	Pass	N/A[1]	Pass	Pass	Pass	Pass	Yes	N/A – This is the Proposed Project and impacts of Alternatives will be compared to impacts of the Proposed Project.
1. No Project	Required for Evaluation by CEQA and NEPA							**Yes**	Required by CEQA and NEPA
2. 130 KAFY Water Conservation and Transfer (Meet Minimum of IID/SDCWA Transfer Agreement Only)	Pass	Pass	Pass	Pass	Maybe	Pass	**Fail**	**Yes**	Meets primary objectives and potentially reduces impacts when compared to the Proposed Project - reduced conservation and transfer reduces impacts to Salton Sea and LCR.
3. 230 KAFY Water Conservation and Transfer (Meet Minimum of QSA and IID/SDCWA Transfer Agreement)	Pass	Pass	Pass	Pass	Pass	Pass	Pass	**Yes**	See rationale for Alternative 2 above.
4. 300 KAFY Water Conservation and Transfer (Meet Minimum of QSA and IID/SDCWA Transfer Agreement) - Fallowing Only	Pass	Maybe	Pass	Pass	Maybe	Pass	Pass	**Yes**	Meets primary objectives and potentially reduces impacts when compared to the Proposed Project - fallowing reduces impacts to the Salton Sea.
5. Water Treatment and Reuse	Pass	Pass	**Fail**	**Fail**	Maybe	Unknown	Pass	**No**	Does not reduce impacts compared to the proposed project, may include additional impacts associated with construction of facilities and disposal of treatment byproducts.
6. Alternative Conveyances									
6a. Connect Coachella Canal to CRA	Pass	Pass	**Fail**	Pass	Maybe	ST-F; LT-P[2]	Pass	**No**	Reduces impacts to LCR because does not require change in diversion point on LCR, however impacts to LCR with Proposed Project can be fully mitigated. Significant construction and potentially operation impacts associated with constructing 10 miles of conveyance facilities for this Alternative prevent this Alternative from reducing impacts compared with the Proposed Project, which does not require construction of facilities other than for conservation measures.
6b. Extend the AAC to SDCWA system	Pass	Pass	**Fail**	Pass	Pass	ST-N LT-Y	Pass	**No**	Reduces impacts to LCR because does not require change in diversion point on LCR for 200 or 250 out of 300K (transfers to MWD would be diverted at Parker, however impacts to LCR with Proposed Project can be fully mitigated. Significant construction and potentially operation impacts associated with constructing 150 miles of conveyance facilities for this Alternative prevent this Alternative from reducing impacts compared with the Proposed Project, which does not require construction of facilities other than for conservation measures.
6c. New conveyance from LCR to SDCWA in Mexico	Pass	Pass	**Fail**	Pass	Maybe	ST-F LT-P[2]	Pass	**No**	Reduces impacts to LCR because does not require change in diversion point on LCR for 200 or 250 out of 300K (transfers to MWD would be diverted at Parker, however impacts to LCR with Proposed Project can be fully mitigated. Significant construction and potentially operation impacts associated with constructing

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									150 miles of conveyance facilities for this Alternative prevent this Alternative from reducing impacts compared with the Proposed Project, which does not require construction of facilities other than for conservation measures.
6d. Expand capacity of the CRA	Pass	Pass	**Fail**	Unknown	Unknown	Fail	Pass	**No**	Does not reduce impacts compared to the Proposed Project, since diversion would also be at Parker Dam. In addition this Alternative has significant additional impacts associated with >100 miles of construction required to expand existing CRA. Additionally this Alternative may not be politically feasible.
6e. Construct a New Aqueduct Parallel to the CRA	Pass	Pass	Fail	Pass	Pass	ST-F; LT-P[2]	Pass	**No**	Does not reduce impacts compared to the Proposed Project, since diversion would also be at Parker Dam. In addition this Alternative has significant additional impacts associated with >100 miles of construction required to construct a new aqueduct parallel to the CRA. Additionally this Alternative may not be politically feasible.
7. Other Conservation/Transfer	Fail	**Fail**	Unknown	N/A	Fail	Unknown	Unknown	**No**	Cannot guarantee reliable supply, particularly during drought periods when it is most needed and could compromise IID's water rights because it does not implement a water conservation program in IID as required by the SWRCB. Also, may not reduce impacts when compared to the Proposed Project, depending on origin of water and method of conveyance.
8. Maximize Local Supplies in SDCWA-Desalination	Maybe	**Fail**	Unknown	Pass	Unknown	ST-F; LT-P[2]	**Fail**	**No**	Impacts, such as energy use, disposal of byproducts, encroachment onto sensitive marine habitats, associated with development of this Alternative may be greater than the Proposed Project. Also the project may not be economically feasible.
9. CVP and SWP Supplies	Fail	**Fail**	Unknown	Unknown	Pass	Pass	**Fail**	**No**	Cannot guarantee reliable supply, particularly during drought periods when it is most needed and could compromise IID's water rights because it does not implement a water conservation program in IID as required by the SWRCB. Also, may not reduce impacts when compared to the Proposed Project, depending on origin of water to be purchased and method of conveyance.
10. Water Banking	Unknown	**Fail**	Pass	Pass	Pass	Pass	**Fail**	**No**	Cannot guarantee reliable supply, particularly during drought periods when it is most needed and could compromise IID's water rights because it does not implement a water conservation program in IID as required by the SWRCB. Also, may not reduce impacts when compared to the Proposed Project, depending on origin of water banked and methods of conveyance.

Notes:
[1] F6 is not rated for this Alternative because this criterion is intended to identify alternatives which have the potential to minimize environmental impacts when compared to the Proposed Project.
[2] ST-F LT-P means that the project does not meet the criteria in the short term but does in the long term.